

## **SUB-SYMBOL PARALLEL INTERFERENCE CANCELLATION**

### **ABSTRACT of the DISCLOSURE**

Reduction of multiple access interference, in one example for asynchronous CDMA systems using long codes. In one aspect, parallel interference cancellation (PIC) implements a decoupled estimate, preferably non-linear and applied at chip intervals. According to another aspect, interference is cancelled using a technique that estimates bits for a symbol by interpolating signature waveforms for users to a common sampling lattice of the received data. According to another aspect, multi-stage, hybrid multi-stage, and reconfigurable recursive multi-stage multi-user detection architectures and corresponding processes are provided.